AMENDMENTS TO THE CLAIMS

A detailed listing of all claims that are, or were, in the present application, irrespective of whether the claim(s) remains under examination in the application are presented below. The claims are presented in ascending order and each includes one status identifier. Those claims not cancelled or withdrawn but amended by the current amendment utilize the following notations for amendment: 1. deleted matter is shown by strikethrough for six or more characters and double brackets for five or less characters; and 2. added matter is shown by underlining.

Claims:

1-10. (Cancelled).

11. (Withdrawn) The method of claim 1, wherein the neurotransmitter is catecholamine.

12-15. (Cancelled).

16. (Withdrawn) The method of claim 14, wherein the reference range of dopamine amino acid precursor of catecholamine neurotransmitter is approximately 100-250 micrograms of neurotransmitter per gram of creatinine.

17. (Withdrawn) The method of claim 14, wherein the reference range of norepinephrine amino acid precursor of catecholamine neurotransmitter is approximately 25-75 micrograms of neurotransmitter per gram of creatinine.

18. (Withdrawn) The method of claim 14, wherein the reference range of epinephrine amino acid precursor of catecholamine neurotransmitter is approximately 5-13 micrograms of neurotransmitter per gram of creatinine.

19-20. (Cancelled).

21. (Withdrawn) The method of claim 19, wherein the optimal range of dopamine amino acid precursor of catecholamine neurotransmitter is approximately 125-175 micrograms of neurotransmitter per gram of creatinine.

22-27. (Cancelled).

28. (Withdrawn-Currently Amended) The method of claim [[26]] 54, wherein the therapeutic range ~~for concentrations~~ of serotonin neurotransmitter level is approximately 250-1,200 micrograms of neurotransmitter per gram of creatinine~~, for treatment related to panic disorder and obsessive compulsive disorder~~.

29. (Withdrawn-Currently Amended) The method of claim [[26]] 54, wherein the catecholamine neurotransmitter is dopamine and the therapeutic range of dopamine ~~amino acid precursor of catecholamine~~ neurotransmitter level is approximately 200-500 micrograms of neurotransmitter per gram of creatinine.

30. (Withdrawn-Currently Amended) The method of claim [[26]] 54, wherein the catecholamine neurotransmitter is dopamine and the therapeutic range of dopamine ~~amino acid precursor of catecholamine~~ neurotransmitter is approximately <20,000 micrograms of neurotransmitter per gram of creatinine ~~for treatment of Parkinsonism~~.

31. (Withdrawn-Currently Amended) The method of claim [[26]] 54, wherein the catecholamine neurotransmitter is norepinephrine and the therapeutic range of norepinephrine ~~amino acid precursor of catecholamine~~ neurotransmitter is approximately 35-70 micrograms of neurotransmitter per gram of creatinine.

32. (Withdrawn-Currently Amended) The method of claim [[26]] 54, wherein the catecholamine neurotransmitter is epinephrine and the therapeutic range of epinephrine ~~amino acid precursor of catecholamine~~ neurotransmitter is approximately 8-13 micrograms of neurotransmitter per gram of creatinine.

33-45. (Cancelled).

46. (Withdrawn-Currently Amended) The method of claim [[44]] 59, wherein the therapeutic range ~~for concentrations~~ of serotonin neurotransmitter level is approximately 250-1,200 micrograms of neurotransmitter per gram of creatinine~~, for treatment related to panic disorder and obsessive compulsive disorder~~.

47. (Withdrawn-Currently Amended) The method of claim [[44]] 59, wherein the catecholamine neurotransmitter is dopamine and the therapeutic range of dopamine ~~amino acid precursor of catecholamine~~ neurotransmitter is approximately 200-500 micrograms of neurotransmitter per gram of creatinine.

48. (Withdrawn-Currently Amended) The method of claim [[44]] 59, wherein the catecholamine neurotransmitter is dopamine and the therapeutic range of dopamine ~~amino acid precursor of catecholamine~~ neurotransmitter is approximately <20,000 micrograms of neurotransmitter per gram of creatinine ~~for treatment of Parkinsonism~~.

49. (Withdrawn-Currently Amended) The method of claim [[44]] 59, wherein the catecholamine neurotransmitter is norepinephrine and the therapeutic range of norepinephrine ~~amino acid precursor of catecholamine~~ neurotransmitter is approximately 35-70 micrograms of neurotransmitter per gram of creatinine.

50. (Withdrawn-Currently Amended) The method of claim [[44]] 59, wherein the catecholamine neurotransmitter is epinephrine and the therapeutic range of epinephrine ~~amino acid precursor of catecholamine~~ neurotransmitter is approximately 8-13 micrograms of neurotransmitter per gram of creatinine.

51-53. (Cancelled).

54. (Currently Amended) A method for optimizing the neurotransmitter levels of the serotonin and catecholamine systems in a subject, the method comprising:

a) administering a first therapeutic amount of a first monoamine amino acid neurotransmitter precursor of the serotonin system and a second monoamine amino acid precursor of the catecholamine system ~~precursors~~ to the subject substantially simultaneously;

b) assaying a bodily fluid of the ~~patient~~ subject to determine ~~the neurotransmitter levels~~ a serotonin neurotransmitter level and a catecholamine neurotransmitter level of the subject in the bodily fluid;

c) administering a second therapeutic amount of the first monoamine amino acid neurotransmitter precursor of the serotonin system and the second monoamine amino acid precursor of the catecholamine system ~~precursors~~ to the ~~patient~~ subject substantially simultaneously based on the assayed serotonin and catecholamine neurotransmitter levels of the subject; and

d) repeating steps b and c until ~~the neurotransmitter levels of the patient are in a desired range for the patient~~ a therapeutic range of the serotonin and catecholamine neurotransmitter levels is achieved wherein small increases in dosage of the first monoamine amino acid neurotransmitter precursor results in a large increase in the serotonin neurotransmitter levels and small increases in dosage of the second monoamine amino acid precursor results in a large increase in the catecholamine neurotransmitter levels in the bodily fluid of the subject.

55. (Currently Amended) The method of claim 54 including an initial step of assaying the serotonin neurotransmitter level and the catecholamine neurotransmitter level ~~neurotransmitter levels~~ in the subject prior to administering the first monoamine amino acid neurotransmitter precursor and a second monoamine amino acid neurotransmitter precursor ~~a first therapeutic amount of amino acid neurotransmitter precursors~~ to the subject.

56. (Cancelled).

57. (Currently Amended) The method of claim 54 wherein the first monoamine amino acid neurotransmitter precursor[[s are]] is selected from [[the]] a group consisting of ~~L-Dopa, tyrosine, N-acetyl-1-tyrosine~~[[,]] ~~and phenylalanine~~, tryptophan and 5-HTP.

58. (Currently Amended) The method of claim 54 wherein the second monoamine amino acid neurotransmitter precursor[[s]] ~~comprise~~ is selected from a group consisting of L-Dopa, tyrosine, N-acetyl-1-tyrosine[[,]] and phenylalanine ~~tryptophan and 5-HTP~~.

59. (Currently Amended) A method for optimizing the neurotransmitter levels of the serotonin and catecholamine systems in a subject comprising:

a) assaying a serotonin neurotransmitter level and a dopamine neurotransmitter level ~~the neurotransmitter levels~~ in a bodily fluid of the subject;

b) administering a first therapeutic amount of a first monoamine amino acid neurotransmitter precursor of serotonin and a second monoamine amino acid precursor of dopamine ~~precursors~~ to the subject;

c) assaying [[a]] the bodily fluid of the patient to determine the ~~neurotransmitter levels~~ serotonin neurotransmitter level and the dopamine neurotransmitter level of the subject in the bodily fluid;

d) administering a second therapeutic amount of the first monoamine amino acid neurotransmitter precursor of serotonin and the second monoamine amino acid precursor of dopamine ~~precursors~~ to the ~~patient~~ subject substantially simultaneously based on the assayed serotonin and dopamine neurotransmitter levels of the subject; and

e) repeating steps c and d until ~~the neurotransmitter levels of the patient are in a desired range for the patient~~ a therapeutic range is achieved wherein small increases in dosage of the first monoamine amino acid neurotransmitter precursor of serotonin and the second monoamine amino acid precursor of dopamine result in a large increase in the serotonin neurotransmitter level and the dopamine neurotransmitter level in the bodily fluid.

60. (Cancelled).

61. (Currently Amended) The method of claim 59 wherein the first monoamine amino acid neurotransmitter precursor[[s are]] is selected from [[the]] a group consisting of ~~L-Dopa, tyrosine, N-acetyl-1-tyrosine[[,]] and phenylalanine~~, tryptophan and 5-HTP.

62. (Currently Amended) The method of claim 59 wherein the second monoamine amino acid neurotransmitter precursor[[s]] ~~comprise~~ is selected from a group consisting of L-Dopa, tyrosine, N-acetyl-1-tyrosine[[,]] and phenylalanine ~~tryptophan and 5-HTP~~.